Database Interface Specification v1.0

Introduction

The Database is a HTTP web service that stores all user identifiers including ids provided by the facilitator as well as provides archival services for pictures used by the facilitator for future restoration of a facilitator service without the need to request pictures from the clients. Each method is a HTTP POST request with Content-Type: "application/json" in the header. All other parameters are passed as JSON in the body.

Interface Overview

Service	Provided by	Tested by
1. Register an array of images and array of facilitatorIds to a new user with the service. Returns a unique userId string on success that is required for a login request.	/register	
2. Authenticate an existing user with an image. Requires the userId string and returns an array of facilitatorIds on success.	/login	

Access Methods

Access Method	Parameter name	Parameter type	Description	Exceptions	Map to services
/register	pictures :IN	array of picture objects	An array of base64 encoded image strings and their associated pictureId string.		1
	facilitatorIds :IN	array of facilitator objects	An array of facType strings and facId string.		

	userId :OUT	string	Returned only on success. A unique user identification string generated by the database after a successful request.		
	errors :OUT	array of error objects	Returned only on failure. Each element of the array of errorCode ints and errorMessage string.		
	success :OUT	boolean	True if request was successful return true, else false.		
/login	userId :IN	string	A unique user identification string that was returned after a successful register request.		2
	success :OUT	boolean	True if user exists in database.		
	facilitatorIds :OUT	array of facilitator objects	An array of facType strings and facId string.		
	errors :OUT	array of error objects	Returned only on failure. Each element of the array of errorCode ints and errorMessage string.		

Access Method Effects

Access Method	Description

/register	When the authentication server sends a register request to the database, the user's pictures and facilitatorIds are saved. With a successful response the database generates a userId.
/login	When the authentication server sends a login request to the database, the database checks if the user exists in the database and returns all of the user's facilitatorIds.

Local Types

Type	Value Space
facilitatorId	{ facType: string, facId: string } A JSON object with two fields, facType and facId. facType is a string used to identify facial recognition services. "fpp" could represent FacePlusPlus or "mcs" could represent the Microsoft Cognitive Services Face API. facId is the identifier returned by a facial recognition service when a user has been successfully created. Each object in the array is for a different service.
picture	{ base64: string, pictureId: int } A JSON object with two fields, base64 and pictureId. base64 is a base64 encoded image string and pictureId is a unique identifier.
error	{ errorCode: integer, errorMessage: string } A JSON object with two fields, errorCode and errorMessage. errorCode is an integer that identifies the error type. errorMessage is a short description of the errorCode.

Terms

Uses

Exception Dictionary

errorCode	errorMessage	Tested by
1	The image file is too large.	
2	No face could be detected in the image.	
3	There is something unknown wrong with the image.	
4	The image file is in an unsupported file format.	
5	A JSON tag is missing or formatted incorrectly.	

Test cases

Register success

Step	Description	Input Type/Value	Expected Result	Service
1	register request	pictures, facilitatorIds	The database processes the register request.	1
2	register result	success, userId	success is true and userId is uniquely generated by database	1

Login success

Step	Description	Input Type/Value	Expected Result	Service
1	login request	userId	The database processes the	2

Step	Description	Input Type/Value	Expected Result	Service
			login request.	
2	login result	success, facilitatorIds	The success boolean is true and an array of facilitatorId of the requested user	2

Register failure with one or more invalid picture objects or with an invalid JSON tag

Step	Description	Input Type/Value	Expected Result	Service
1	register request	pictures, facilitatorIds	The database processes the register request.	1
2	register result	success, errors	success is false and array of error objects	1

Login failure with one or more invalid picture objects or with an invalid JSON tag

Step	Description	Input Type/Value	Expected Result	Service
1	login request	userId	The database processes the login request.	2
2	login result	success, errors	success is false and array of error objects	2

Design Issues